ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract **Element Code: ABPBM02060**
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Anthus spragueii*
COMMON NAME: Sprague's Pipit; Missouri skylark; prairie skylark; titlark.
SYNONYMS: *Alauda spragueii* Audubon
FAMILY: Motacillidae

AUTHOR, PLACE OF PUBLICATION: *Alauda spragueii* Audubon, Birds Amer. (octavo ed.), vol. 7, 1844, p. 334, pl. 486.

TYPE LOCALITY: Prairies near Ft. Union, western North Dakota, June 1843 by Isaac Sprague.

TYPE SPECIMEN: * Type collected by Isaac Sprague, June 1843. Cotype USNM A01884, complete skin of adult female, collector unknown, collected 19 June 1843.

TAXONOMIC UNIQUENESS: The species *spragueii* is one of 21+ species in the genus *Anthus*. *A. spragueii* may constitute a superspecies with *A. furcatus* of south America (AOU 1998 in NatureServe 2001). Molecular data, however, indicate that the closest living relative of Sprague's is the Yellowish Pipit (*A. lutescens*) of South America, with these 2 species sister to Short-billed Pipit, also of South America (Voelker 1999 *in* Robbins and Dale 1999).

DESCRIPTION: A small, ground-inhabiting passerine, measuring 10-15 cm (3.93 - 5.9 in.) in length and a mass of 22-26 g. National Geographic reports length of 17 cm (6.5 in). Sexes and ages similar in appearance. Crown, nape, and upperparts with buff and blackish streaking; face plain buffy with pale eye-ring accentuating large-eyed appearance; chin, throat, and underparts whitish; finely streaked blackish on breast, and breast and flanks often faintly washed with buff; wings and tail dark brown with 2 pale indistinct wing-bars, outer rectrices mostly white (Pyle 1997). (Robbins and Dale 1999). Wings 7.7-8.5 cm (3.03-3.34 in) long (NatureServe 2001); tail length 5.6-5.7 cm (2.20-2.24 in). Bill relatively slender, short, and straight; upper mandible blackish, lower mandible pale with blackish tip. Tarsi yellow to pale pinkish brown, relatively long with elongated nail of hallux (hind claw). Entire body plumage with more pronounced buff coloration in fresh Basic plumage (fall and early winter), but buff feather edges on upperparts much reduced from wear June-August. Juveniles similar to adults, but with black spotting rather than streaking. (Robbins and Dale 1999).

AIDS TO IDENTIFICATION: Most similar in appearance to American Pipit (*Anthus rubescens*). Sprague's Pipit distinguished by upperparts buffy brown with broad blackish streaking (not uniformly grayish or brownish), ear-coverts pale buffy to whitish (not brown or gray) and not contrasting distinctly with throat, legs yellowish to pale pinkish brown (not dark brown to blackish), outermost 2 rectrices (not just outermost rectrix R6) extensively white hind claw and toe longer than central toe and claw, and lower mandible pale contrasting with dark upper mandible (bill not entirely dark; Pyle 1997). American Pipit typically in wetter areas and occasionally seen perched on telephone wires, fences, and treetops. Bill pattern and color, rounded head, and large-eyed look reminiscent of Upland Sandpiper (*Bartramia longicauda*). (Robbins and Dale 1999).

ILLUSTRATIONS: Color drawing (National Geographic, 1999: p.363).
Color drawing (Peterson, 1990: p. 245).

TOTAL RANGE: Breeds from north-central Alberta, central Saskatchewan, and southern Manitoba south to Montana, western South Dakota, North Dakota, and northwestern Minnesota. Winters from southern Arizona, southern New Mexico, Texas, Alabama, southern Louisiana, and northwestern Mississippi south to central Mexico (AOU 1983).

RANGE WITHIN ARIZONA: Winters mainly in San Rafael, Sonoita, and Sulphur Springs grasslands in southeastern Arizona. A few individuals have also been found wintering in grassy (sometimes mixed with alfalfa) fields along lower Colorado River from north of Yuma to Parker, and grass and alfalfa fields near Phoenix and Sierra Vista. Arrives on wintering grounds by mid-October and usually gone by early April. (AGFD 1996 in prep).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: Vocalizations - the bird is most easily detected by its unique flight song given overhead (as high as 75m); a high-pitched, thin "jingling" sound that can continue for as long as an hour (Peterson 1980, King 1981 *in* NatureServe 2001). Aerial display vocalization is a thin, relatively high-pitched, slightly descending *tzsee-tzsee-tzsee-tzsee-tzsee-tzsee-tzsee*, of 2.5-3.0 s duration. Infrequently sings from the ground. Typical call is a single-syllable, squeaky *squick* or *tchik*, often repeated several times as the bird rises from the ground or circles overhead. (Robbins and Dale 1999). Nestlings give adult call note by age 10 or 11 d (Harris 1933 *in* Robbins and Dale 1999). On the ground, the bird is extremely secretive and flies away in a long, undulating flight when approached. It walks instead of hops and usually only lands on the ground. (NatureServe 2001). Robbins and Dale (1999) report that "aerial displays involve long periods of circling over territory, constantly flapping except while singing. At end of display, male plummets straight down and just before reaching the ground, levels off and flies a few meters before dropping into the grass." Ehrlich et al. (1988); "male performs extended aerial courtship, ascending up to 500 ft. and spiraling down while singing."

Generally solitary on migration and wintering ground, although loosely associated flocks occasionally encountered. Flocks of adults and immatures begin forming mid-July, with size of flocks gradually increasing until late August and the first week of September. (Robbins and Dale 1999). No published accounts of adult mortality or nest predation, but like most ground-inhabiting birds, probably taken by mammals, snakes, and raptors.

REPRODUCTION: *Anthus spragueii* is apparently monogamous, but detailed studies of marked birds lacking. Pair formation begins shortly after arrival on breeding grounds, with nest building beginning early to mid-May. Birds may clutch twice if first clutch fails. Nests are built on the ground by females, in open grassland usually at base of dense tussock or grass. Female is difficult to flush from nest. Nests consist of coarse and fine dried grasses (about 5-15 cm in length) woven into a cup; long grass growing adjacent to nest is sometimes interwoven with loose grass to form a dome (Sutter 1997 *in* Robbins and Dale 1999). Interior of nest is 7.6 cm in diameter; 3.8 cm in depth; with a 5.1 cm entrance hole. Clutch size 3-6 (usually 4-5) eggs. Eggs are grayish white to pale buff with uniformly distributed blotched markings of olive brown to purplish brown. Incubation and feeding of nestlings, performed by female. Average incubation period is 13-14 days. Hatchlings are altricial and downy; light-gray down is long and thick on head and upperparts. Nestlings will leave nest around day 10 or 11, but they cannot stand upright or fly. (Robbins and Dale 1999). There is no information on fledged or immature young. It is thought though, that the male takes over their care until they can fly.

FOOD HABITS: Granivore, Invertivore. Feeds on insects during the summer and seeds during the fall and winter. Forages on the ground. Adults eat a variety of seeds, and insects such as grasshoppers, crickets, ants, weevils, stink bugs and caterpillars (Bent 1950). (NatureServe 2001).

HABITAT: Breeding: Nests in short-grass plains, mixed grass prairie, alkaline meadows, and wet meadows. Found in grasslands with mid-height vegetation including upland mixed-grass prairie, alkaline meadows and wet meadow zones around alkali and freshwater lakes (Stewart 1975; Dryer, pers. comm., *in* NatureServe 2001). Non-breeding: In migration and winter, found in pastures and weedy fields (AOU 1983). Utilizes grasslands with dense herbaceous vegetation or grassy agricultural fields. (NatureServe 2001). Other habitat features required include low visual obstruction, moderate litter cover, and little or no woody vegetation (Dechant et al. 2001).

On the Lower Colorado River Valley (LCRV), the most important ingredient is dry Bermuda grass *(Cynodon dactylon*). Pure grass fields are rare but these will invariably support this species. Alfalfa fields mixed with patches of dry grass are also suitable. Rarely, one may be flushed from tall alfalfa without much grass. As with several other agricultural-adapted species, Sprague's Pipit may be a recent addition to the local LCRV avifauna. It is unlikely that any native habitat supported this species before the development of agriculture in the Valley. (Rosenberg et al. 1991).

ELEVATION: 4,285 - 4,960 ft. (1307 - 1513 m), based on records in the Heritage Data Management System (HDMS) (AGFD unpublished data accessed 2001).

PLANT COMMUNITY: Similar habitats are used in winter range as in breeding range. In breeding range, native grass is preferred over smooth brome (*Bromus inermis*) and crested wheat (*Agropyron cristatum*) grasses. Dominant grasses in native mixed-grass prairie at Matador, sw. Saskatchewan, included northern wheatgrass (*Agropyron dasystachyum*), western wheatgrass (*A. smithii*), junegrass (*Koeleria gracilis*), and green needle grass (*Stipa viridula*; Sutter 1996). Northern wheatgrass and junegrass, along with slender wheatgrass (*A. trachycaulum*), blue gramma (*Bouteloua gracilis*), and Canby blue (*Poa canbyi*), dominated at Last Mtn. Lake, Saskatchewan (Dale 1983). In British Columbia, dominant vegetation was bluebunch wheatgrass (*A. spicatum*), porcupinegrass (*Stipa spartea*), spreading needle grass (*Stipa richardsonii*), and Rocky Mountain fescue (*Festuca saximontana*; Campbell et al. 1997). At Lostwood NWR, native hilltops dominated by blue gramma (*B. gracilis*), threadleaf sedge (*Carex filifolia*), junegrass, and plains muhly (*Muhlenbergia cuspidata*; R. Murphy and K. Smith pers. comm.). (Robbins and Dale 1999).

POPULATION TRENDS: The species is apparently globally secure, however, populations are declining, especially on the eastern edge of its range as a result of a 75% decline in pristine grassland habitat and a 50% decline in wetlands habitat (NatureServe 2001). Breeding Bird Surveys (Sauer et al. 1997 in Robbins and Dale 1999) show declines for period 1966-1996: survey-wide declines for period 4.7% (p=0.005), with the greatest decline (8%) occurring on the Canadian Prairie Provinces (p=0.005). The conversion of prairie and cultivation and overgrazing in much of this species' range continue to cause declines on breeding and wintering grounds (Samson and Knopf 1994). Drought and introduction of Eurasian plant species also has a negative effect on densities. (Robbins and Dale 1999). Encroachment of shrubs and trees throughout its wintering area, as a result of severe overgrazing over the past century, has drastically reduced viable habitat (Brown 1982, Stotz et al. 1996, *in* Robbins and Dale 1999).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: WC (AGFD, WSCA in prep)
[Candidate, AGFD, TNW 1988]
OTHER STATUS: Bureau of Land Management Sensitive
(USDI, BLM AZ 2008)

MANAGEMENT FACTORS: **Threats:** overgrazing (especially during drought years) of grasslands; shrub invasion; urban development in southeastern Arizona. Threats in southeastern Arizona are increasing with development of horse properties and residences, vineyards, new roads, introduction of domestic and feral cats, and off-highway vehicle use. **Management needs:** survey winter populations in southeastern Arizona; reduce cattle grazing of native grasslands to maintain and enhance habitat; reduce shrub invasion by

maintaining natural fire regimes; consolidate housing and protect native grassland open space within housing developments; reduce agricultural (vineyard) development in native grasslands.

While Sprague's Pipits are most abundant in idle grasslands, light to moderate grazing, prescribed burning, and mowing done the previous year can by important management tools in preventing litter buildup and encroachment from shrubs. They may not use these areas immediately after implementing the technique but will return after grassland structure has been adequately restored. (MBCP 2000).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Sprague's pipit is one of the least-known birds in North America because of its highly cryptic plumage and habits. Very little is known about the basic biology of Sprague's pipit, and almost nothing is known about its behavior on the wintering grounds in the southwestern and south-central United States and northern Mexico. (Robbins and Dale 1999). Thus studies in Arizona should concentrate on wintering behavior. Priorities for areas of study for the range are 1) detailed life history study, 2) habitat preferences - quantitative measurements on vegetation height, density, composition, etc., 3) effect of grazing, burning and mowing on nest-site selection and nesting success, and 4) minimum preserve size needed for a viable population (NatureServe 2001).

LAND MANAGEMENT/OWNERSHIP: USFS - Coronado National Forest; State Land Department; Audubon Research Ranch; Private.

SOURCES OF FURTHER INFORMATION

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ADDITIONAL INFORMATION:

* Audubon described and named this species after his friend Isaac Sprague, who collected the first specimen near fort Union, North Dakota, in June 1843 (Robbins and Dale, 1999).

The genus name is from the Latin anthus, meaning bunting or titlark (Franks 1994). Terres (1980), states "genus name: Lat., from Gr. *anthos*, a kind of bird; Macleod (1954) reported that according to Gr. legend, Anthus, a youth killed by his father's horses, was changed into a bird."

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